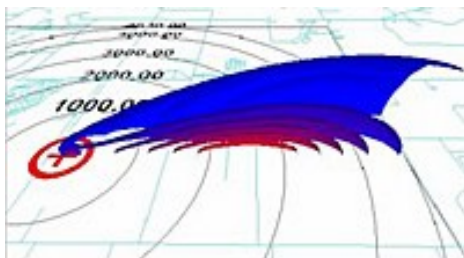


Dispersion Modeling Keeps Air Clean in Kansas

*By Dana Morris, Unit Supervisor
Air Permitting and Compliance Section*

Dispersion modeling is one tool that can be used to evaluate the impact of emissions on air quality. Current dispersion models use historical weather data, terrain data, emissions data, and local building structure data to predict the expected impact of emissions on local air quality. This is currently the only tool available to predict the expected impacts on air quality for sources that are not currently in operation.

Dispersion models can also be used to determine the best placement of ambient air monitors. Models can also be extremely useful in evaluating episodes resulting from malfunctions. A local refinery recently had an explosion that resulted in a large amount of sulfur dioxide released through a flare. KDHE's ability to rapidly assess the ambient impacts of this situation and deploy temporary air monitors in the proper location was probably a significant factor in resolving this situation. The refinery quickly implemented an alternative solution to flaring these emissions after the air monitors were deployed.



Permits for significant sources of air pollution require that the ambient impacts of their emissions be evaluated through dispersion modeling. EPA is constantly working to improve these models. The newer models require meteorological data in a grid format, using the same types of weather processors that the National

Weather Service uses to forecast weather. These weather processors will not currently run in a windows environment.

Dispersion modeling is a vital part of the air quality program at KDHE. It is useful in evaluating emissions from point, area, and mobile sources. It costs significantly less than ambient air monitoring, and can predict concentrations of pollutants that cannot be measured with today's technology.